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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/692,824	10/19/2000	Jose Murilo Mourao	MITA 17.869	6759

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EXAMINER
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KASTLER, SCOTT R

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/692,824

Applicant(s)

MOURAO ET AL.

Examiner

Tima M. McGuthry-Banks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Brazil on 15 May 2000. It is noted, however, that applicant has not filed a certified copy of the Brazilian application as required by 35 U.S.C. 119(b).

### *Claim Objections*

2. Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants are required to cancel the claim, amend it to place it in proper dependent form, or rewrite it in independent form. It is unclear if applicants intend for the iron-containing material is the same as the one claimed in Claim 1. Claim 2 contains no language that further limits Claim 1.

3. Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants are required to cancel the claim, amend it to place it in proper dependent form, or rewrite it in independent form. It is unclear for what the aluminum material is used in Claim 7. It does not provide any language for including the aluminum compound and/or an aluminum source to the method claimed in Claim 1.

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4. Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants are required to cancel the claim, amend it to place it in proper dependent form, or rewrite it in independent form. It is unclear for what the particulate material is used in Claim 8. It does not provide any language for including the particulate to the method claimed in Claim 1.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

6. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Applicants' use of the indefinite terms "can", "able", and "cannot" does not establish any positive limitations for Claims 1, 3, 4, 6, 9, 10, and 16.

8. Claim 1 lacks sufficient antecedent basis for the limitation "the reduction of the ore and/or iron-containing substances" in line 3.

9. Applicants use the phrase "aqueous mean" in Claims 1, 3, 6, 13, 15, and 16. It is unclear what is meant by this phrase; the examiner will interpret this phrase as an "aqueous medium".

10. In Claim 1, it is unclear what is meant by "an efficient coating" in line 6 and "heavy handling" in line 7.

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11. Claim 3 lacks sufficient antecedent for the limitation “the contact of an iron-containing reducible material” in lines 2 and 3 with respect to Claim 1. If applicants into for this limitation to be a step, then applicants must recite active steps; method claims should at least recite positive active steps. See *Ex parte Erlich* 34 USPQ 2d.

12. Claim 4 lacks sufficient antecedent basis for the limitation “the contact of agglomerates” in lines 2 and 3 with respect to Claim 1. If applicants into for this limitation to be a step, then applicants must recite active steps; method claims should at least recite positive active steps. See *Ex parte Erlich* 34 USPQ 2d.

13. Claim 5 lacks sufficient antecedent basis for the limitation “the iron-containing reducible material” in line 3 with respect to Claim 1.

14. The terms “cold” and “hot” in Claim 5 are relative terms that render the claim indefinite. The terms “cold” and “hot” are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention. The limitation “cold or hot agglomerate” reads on any agglomerate.

15. Regarding Claims 5, 7, 9, 13, 15 the phrase “such as” renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

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16. Regarding Claim 5, the phrase "and the like" renders the claim indefinite because the claim includes elements not actually disclosed (those encompassed by "and the like"), thereby rendering the scope of the claim unascertainable. See MPEP § 2173.05(d).

17. Claim 6 lacks sufficient antecedent basis for the limitation "the particulate material" in lines 2 and 3 with respect with Claim 1.

18. The term "finely" in Claims 6 and 10 is a relative term that renders the claim indefinite. The term "finely" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

19. The term "high" in Claim 9 is a relative term that renders the claim indefinite. The term "high" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention.

20. Claim 10 lacks sufficient antecedent basis for the limitation "the particulate material" in lines 2 and 3 with respect with Claim 1.

21. Claim 11 lacks sufficient antecedent basis for the limitation "the particulate material in the dispersions" in line 3 with respect with Claim 1.

22. The limitation "an optimum average size ranging ..." in Claim 11 renders the claim indefinite, since a broad range or limitation followed by linking terms and a narrow range or

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limitation within the broad range or limitation does not clearly set forth the metes and bounds of the patent protection desired.

23. Claim 12 lacks sufficient antecedent basis for the limitation “the particulate material” in lines 2 and 3 with respect with Claim 1.

24. Claim 13 lacks sufficient antecedent basis for the limitation “the particulate material” in lines 2 and 3 with respect with Claim 1.

25. In Claims 13-15, it is not clear what is meant by a “typical dispersion”.

26. Claim 14 is incomplete. The examiner assumes that it supposed to end with the same 9 words as in Claims 13 and 15. If this were so, then Claim 14 would share the same rejections over indefiniteness as Claims 13 and 15.

27. Regarding Claims 15 and 16, a broad range or limitation followed by a linking term such as “preferably” and a narrow range or limitation within the broad range or limitation is considered indefinite since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

28. Claim 16 lacks sufficient antecedent basis for the limitation “the particulate material” in line 3 with respect with Claim 1.

### ***Claim Rejections - 35 USC § 102***

29. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country, in public use, or on sale in this country, more than one year prior to the date of application for patent in the United States.

30. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Steeghs (US 5,476,532).

Steeghs anticipates the claimed invention. Regarding Claims 1 and 4, Steeghs teaches a method for lowering the incidence of clustering of reducible iron-containing material during the direct reduction of the material. The method comprises contacting the reducible iron-containing material prior to the direct reduction with a cluster-abating, effective amount of a dispersion. The dispersion comprises at least one fluxing agent and at least one particulate material that is substantially non-hardening in the presence of water (column 2, lines 12-21). Regarding Claim 2, the contacting may take place by spraying or dipping (column 5, line 2). Regarding Claims 3, 7, and 8 the reducible iron-containing material is in the form of pellets comprising a binder and other additives. Binders include a clay, such as bentonite and montmorillonite, a water-soluble natural polymer, a modified natural polymer, modified starch, starch derivatives, and a synthetic polymer (column 2, line 65 to column 3, line 6). Regarding Claim 5, the reducible iron-containing material may be agglomerated or in natural virgin form (column 2, lines 57-61). Regarding Claims 6 and 10, the particulate material being substantially non-hardening in the presence of water is a divided, finely divided, or powdered material capable of forming a dispersion in a liquid medium and is substantially inert to hardening when mixed with water, e.g. Portland cement (column 3, line 67 to column 4, line 5). Regarding Claim 9, the clays include high alumina clays (column 4, lines 24-26). Regarding Claims 11 and 12, the size of the



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particulate material ranges from 0.01 microns to about 500 microns (lines 36-38). Regarding Claims 13-15, a typical dispersion will contain about 1 to 80% particulate material (column 5, line 28). Regarding Claim 16, the ratio of particulate material to fluxing agent in the dispersion will be in the range of from about 100:1 to 1:100 (lines 55-58).

### *Conclusion*

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Smith (US 5,245,122) teaches a method and mixture for chemically stabilizing electric arc furnace dust by entrapping the metals inherent in the dust with a cementitiously hardened product (abstract).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tima M. McGuthry-Banks, whose telephone number is 703-308-1917. The examiner can normally be reached on 8:30-2:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King, can be reached on 703-308-1146. The fax numbers for the organization where this application or proceeding is assigned are 703-305-3599 for regular communications and 703-305-7719 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is 703-308-0651.

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November 7, 2001

  
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